On the Progress *of the* Small Arms Manufacture.

By J. D. Goodman, Esq.

[Read before Section F, British Association, at Birmingham, September, 1865.]

From the earliest times there is little doubt but that the smiths of Birmingham were renowned for the production of swords and pikes and other similar weapons, but it was not till the close of the seventeenth century, as we hear from the often-quoted Mr. Hutton, that William III, at the suggestion of Sir Richard Newdegate, at that time one of the members for Warwickshire, employed certain manufacturers of the town to supply a quantity of arms for the Government service. Macaulay states that in 1685 the population of Birmingham was only four thousand, and at that day, he says, nobody had heard of Birmingham guns. Previous to this time England had obtained her supplies from the Continent, doubtless chiefly from Liége. The gunmakers of Liége claim for their city the honour of being the most ancient seat of this manufacture. It is stated that in the principality of Liége it dates from the middle of the seventeenth century, when cannon were first introduced. Hand guns were invented about 1430. We hear of their being brought to England by Edward IV, when he landed at Ravenspur, in 1471, bringing with him 300 Flemings armed with hand guns. The match-lock was an improvement shortly afterwards adopted. This was followed by the wheel-lock, which was invented about the time of Henry VIII, and remained without change till the reign of Charles II, when it was superseded by the flint-lock. It was a demand for this gun, a few years later, by William III, that first introduced the manufacture into Birmingham. As the following letter may be regarded as the foundation of what has grown into one of the most important industries of the town, I make no apology for reading it at full length:—

"From Ch. Myddelton, Off. of Ordnance, For their Mats. Service, to Sr. Roger Newdigate, att Arbury, near Warwick.

"These—

"Sr—Pursuant to an order of this Board, We have directed the sending to you by the Tamworth Carryer 2 snaphance Musquetts of differing sorts for patterns, desireing you will please To cause them to be shewed to ye Birmingham Workemen, and upon yor. returne of their ability and readiness to undertake the making and ffixing them accordingly—Or the making Barrells or Locks only, Together wth. the tyme a sufficient Quantity of Barrells can be made in to answer the Trouble and Charge of sending an Officer on purpose to prove the same according to the Tower proofe which is the Equall weight of powder to one of the Bullett alsoe

sent you and their Lowest price, either for a compleat Musquett ready fixd or for a Barrell or a Lock distinct or together as they will undertake to make them. We shall thereupon cause further direction to be given as shall be most beneficiall for their Mats. service with a thankfull acknowledgement of yr. great favour and trouble afforded us herein.

"We are,
"Sr.,
"Your most humble servant,
"CH. MYDDELTON."

"Office of Ordnance, 10th of January, 1689.
"J. Gardiner, Jos. Charlton, Wm. Butler."

Note by the late Sir Roger Newdegate, Bart.:—
"Before, all the guns for the Army were imported from Germany."

The term snaphance used in this letter is derived from the troops who made use of it. These were a set of marauders whom the Dutch termed "snaphans," or poultry stealers. The use of the matchlock exposed them on their marauding expeditions to this inconvenience, that the light from the burning match pointed out their position. They were unable to provide themselves with wheel-lock guns on account of their expense. In this dilemma they formed the snaphance from a study of the wheel-lock. The guns ordered from the Birmingham makers, although retaining the name, were of course an improvement on the original snaphance, and were no doubt a near approach to the flint-lock of modern times.

The first trial of the skill of the Birmingham men having resulted satisfactorily, we find that an order was afterwards transmitted to five manufacturers, Messrs. Wm. Bourne, Thomas Moore, John West, Richard Weston, and Jacob Austin to provide 200 snaphance muskets per month, for which they were to receive, on delivery of each hundred muskets 17*s.* each, ready money, in one week after delivery in the Tower of London, and that they were to be allowed 3*s.* for the carriage of every one hundred weight. This document bears date 5th January, 1693.

We have little or no information to guide us in tracing the progress of the manufacture till the commencement of the present century, when the military records enable us to ascertain the capabilities of the trade at that period, to which I will hereafter refer. Before referring to these figures, it may be interesting to trace the system at present pursued in carrying on this manufacture in Birmingham at the present time.

The manufacture of the various parts of the gun, as barrel, lock, &c., are distinct trades. These several parts are collected by the manufacturer, known as the gunmaker, and by him are set up.

The chief branches are as follows:—Stock making, barrel making, lock making, furniture making, oddwork making; and for military guns there are in addition, bayonet making, sight making, rammer making.

The stocks are of two kinds—beechwood and walnut. They are brought to Birmingham, cut from the plank into the form of the gun. Beech stocks are grown in this country, chiefly in Gloucestershire and Herefordshire. Walnut stocks are, with few exceptions, imported from Italy and Germany. One Birmingham contractor, to meet the demand occasioned by the Crimean war, established saw mills in Turin, and since that period has converted into gun stocks nearly 100,000 walnut trees. He has left but few sound walnut trees standing in the district in which he carried on his operations. The greater part of the supply was obtained in Piedmont, and smaller quantities from Ferrara, Bologna, and Modena. An average size tree yields about thirty gun stocks; those cut from the heart of the tree are most valued, and are used for first-class military arms and the best sporting guns. About one stock in five or six can be obtained "all heart;" the remainder are "sap and heart" and "sap."

Barrel making is quite a distinct trade. For the manufacture of military barrels a somewhat large plant of rolling, boring, and grinding machinery is required. No barrels are made in England, except in Birmingham and its immediate neighbourhood.

The invention of making gun barrels by means of grooved rolls is due to a Birmingham manufacturer of the name of Osborne. It was on the occasion of a strike of the barrel welders that he was led to make the experiment. He was not allowed to introduce his system without opposition, for no sooner were his rolls set to work, than twelve hundred barrel welders, each armed with his forge hammer, proceeded to the private residence of Mr. Osborne, in the Stratford Road, threatening its destruction. The military were called out before the disturbance could be quelled, and for many days afterwards a guard was placed over the mill in which the work was carried on.

Gun locks are made in Birmingham, and, on a still larger scale, in the neighbouring towns of Darlaston and Wednesbury.

Furniture, under which head are included the heel-plate, trigger-guard, &c., is made either of brass for military guns, or cast iron for common sporting guns, or forged iron for the better qualities.

The odd work, consisting of screws, pins, swivels, &c., is produced in Birmingham by manufacturers, who make also sundry implements connected with the trade, such as turnscrews, nipple keys, lock vices, &c.

The bayonets required for the military trade, form an important branch: they are made in Birmingham and West Bromwich. The sword bayonet, which has been largely adopted, is generally produced by the same manufacturers.

Scabbard making is a distinct branch; scabbards are of two kinds, steel and leather.

On reference to the directory of the present year, we find 599 names of manufacturers engaged in the different branches of the trade. Of these 174 are gun makers. Of the remainder the greater number are makers of different parts of the gun. Others again are workmen, such as stockers, finishers, engravers, &c. These are of the class who are out-workers, employing a few assistants, and work at the same time for different masters.

Gunmaking, or "setting up," is again very much subdivided. It is only in the more important establishments that all the branches are carried on on the premises of the gunmaker. More or less, out-workers are engaged in every branch. This system makes it extremely difficult to obtain a correct estimate of the number of workmen employed in the trade. Probably no master can tell how many hands he is employing at any given time, and the number varies from month to month with the demand. About ten years ago an endeavour was made to ascertain the number of hands engaged, and as the workmen themselves assisted in the inquiry, it was at the time, no doubt, a tolerably correct estimate. The number is less than at the present time, and probably it does not represent more than half the number called into requisition by the American demand during the war. With trifling exceptions women are employed only in one branch, that of "making off," or giving the final sand-papering and polish to the stocks, a light and not unsuitable employment. A few women are employed in polishing and barrel-boring. It is difficult to say why such work has fallen into their hands, as it is both dirty and laborious.

The list of workmen employed estimates the total number at 7,340. Of these 3,420 are engaged in producing the materials, the barrel employing 700, the lock 1,200, the bayonet 500, and so on.

Setting up these materials into guns employs 3,920 men. Of these the three chief branches are the stockers, screwers, and finishers. Each of these branches, with its sub-branches, is estimated to employ 1,000 men. The stocker lets the barrel and lock into the stock, and roughly shapes the stock. The screwer lets in the furniture and remaining parts of the gun, and further shapes the stock. The finisher takes the gun to pieces, and distributes the several parts to the browner of the barrel, the polisher, the engraver, &c., &c., and when they are returned he puts the gun together, and finally adjusts the several parts.

The out-working system leads to the employment of a considerable number of young boys, who are employed mainly in carrying the work from one to another as it passes through its several stages.

No very correct estimate can be given of the rate of wages

earned by the workmen in the gun trade. With very few exceptions the work is paid for by the piece, and the rate varies considerably with the demand. During the past ten years there is little doubt but that the wages earned in this trade have probably exceeded those in any other. Several branches require very high skill, and the remuneration is in proportion; for instance, barrel-boring and setting, stocking, rifling, lock-filing, &c. A judgment can be formed of the delicacy of workmanship required in the first of these branches, when I state that a military barrel has to be bored with such truth that it must receive a plug measuring 577 thousands of an inch, and is condemned as useless if it take one of 580. A workman in this branch, in full employment, has frequently been known to earn his 5*l.* to 6*l.* a-week.

It is a very common practice in many of the branches for a workman to employ several assistants, whether working in the factory of his employer or as an out-worker; such men, while paying those under them at the rate of 5*s.* to 10*s.* for boys, and 15*s.* to 25*s.* to adults per week, will take for their own share several pounds. A workman is held to be an inferior hand who, in any of the skilled branches cannot earn, single-handed, 30*s.* per week. It must be admitted that in many cases the high wages confer little benefit—the money is frequently wasted, and bad habits encouraged; but, on the other hand, many are known to have saved money. Workmen in this trade will be found enrolled in one or other of the freehold land societies of this town, and living in houses of their own. The recent bank failure in Birmingham discovered savings which were little known before. In one case a finisher who had steadily remained in the employment of one master for twenty-five years, was found to have no less than 800*l.* lying in the bank.

Strikes have occurred in the gun trade, but happily not frequently. The gunmakers engaged in the military arms trade are associated together, one object being the regulation of wages to be paid to workmen. The men, in like manner, act together, the respective leading branches having their own organisation. Masters and men each know the strength of the other, and have on the whole so arranged their mutual dealings as to avoid disputes.

A serious strike occurred in 1859, which lasted nine weeks. It was finally settled by arbitration. With that exception, during the last ten years, but few difficulties have occurred.

The Birmingham workmen are much more highly paid than those of Belgium and France. We find it stated in evidence given by French gunmakers before a Government commission, appointed to inquire into the state of the gun trade of France in 1860, that the average earnings of the French workmen were 3 frs. to 3 frs. 50 cents per day, or 14*s.* 3*d.* to 16*s.* 7*d.* per week. The same witnesses stated

that in Liége the average earnings were 2 frs. 50 cents per day, or 12*s.* per week, but they included the earnings of women and children; and as they were seeking protection for their own industry, were probably disposed to underrate the wages paid by their Liége competitors.

A recent report by Mr. Barron, Her Majesty's Secretary of Legation at Brussels, describes the workmen engaged in this trade as being in anything but a satisfactory position. He says of those employed in setting up the guns, that "it is not surprising if they "live in a state of chronic pauperism. They are generally ill-lodged, "ill-provided with tools, stinted of air and space. It is common to "see a stocker or a setter up obliged to work and sleep in the same "room, surrounded with a family, and perhaps a hundred guns."

This low price of labour gives our Belgian rivals a great advantage; on the other hand, the better paid and better fed English workman can accomplish an amount of work considerably in advance of his Belgian workfellow; and the English manufacturers possess a further advantage in the more extended application of machinery, the use of which in Liége is discouraged by the cheap rate at which hand labour can be obtained.

The Birmingham gunmakers have long been aware that a more extensive use must be made of the advantages which they do possess, and this has led to the erection in Birmingham of an establishment for the manufacture of guns by machinery, on the interchangeable principle. We must give America credit for the introduction of this system. It was from thence that it was brought into this country. The attention of the English Government was first called to the subject by a commission, of which Mr. Whitworth and Mr. George Wallis, late head master of the Birmingham School of Art, were members. They visited the United States in the summer of 1853 for the purpose of inspecting the New York Exhibition, and while there, they extended their inquiries by visiting several establishments, among others the Government Arms Factory at Springfield. Their report induced the Government to determine on the establishment of a manufactory at Enfield on the same system as that pursued at Springfield.

Before this resolution was carried out, the subject was warmly debated in the House of Commons. Mr. Newdegate, Mr. Muntz, Mr. Geach, Lord Seymour, and other members, strongly insisted on the impolicy of Government entering into competition as manufacturers with the private trade of the country, and it was agreed that a committee should be appointed "to consider the cheapest, "most expeditious, and most efficient mode of providing small arms "for Her Majesty's service." An opportunity was afforded to the gunmakers to give evidence. The result was that the committee

recommended that the factory should be carried out only on a modified scale. The breaking out of the Crimean war shortly afterwards, however, led to this recommendation being disregarded, and the factory at Enfield was erected on a scale even larger than that originally contemplated. A second commission was sent over to the United States, with instructions to inspect the different gun factories in that country, and to purchase such machinery and models as might be found necessary for the proposed factory at Enfield.

The manufacture of small arms by machinery, owes its origin to the invention of a lathe for cutting irregular forms, which is due to an American of the name of Blanshard, a machine which the commission found had been used very extensively for about thirty years in the turning of shoe lasts, boot trees, oars, spokes of wheels, gun stocks, &c.

This machine was first used in the Springfield armoury about twenty-five years ago. It serves to give only the external form to the stock. It was a work of time before other kinds of machines were perfected which were required for the subsequent processes of letting in the lock, guard, &c., but this was eventually accomplished.

I make no attempt to describe the great variety of processes employed to produce the sixty-two or sixty-three several parts which constitute the gun. It will be sufficient to say that the total number of processes under which an Enfield musket of the pattern 1853 undergoes is upwards of 600. Guns made by this system will interchange; that is, that any part of one gun will fit another.

The factory of the Birmingham Small Arms Company, to which I have alluded, is now in working operation. The system is there carried out in its full integrity. It has been planned on a scale to produce a thousand guns per week. There are upwards of 300 machines at work, but at present it has not reached its full power. The number of guns now made there is about 500 per week.

The proving of barrels, with a view to the security of the public, is a subject which has received the careful attention of the legislature. In 1637 a charter was granted by Charles I to the gunmakers of London, for proving all manner of guns made within ten miles of London.

In Birmingham the proof of barrels was left to each individual manufacturer, till in 1813 a public proof house was erected in Banbury Street, and an Act passed rendering compulsory the proving of all barrels made in England, either at the proof house of London or Birmingham. A second Act, giving more extended powers, was passed in 1815.

These regulations worked well for Birmingham, and the security which was felt in English guns materially aided in obtaining for our trade the high reputation which it enjoys. No change was made in

the system pursued till 1855, when the inventions of modern times called for fresh regulations. They were embodied in an Act of Parliament passed in that year, which remains still in force. The security of the user was very greatly increased by the provisions of this Act. Under the previous one, barrels were proved only once, and that in a rather early stage of manufacture. It followed that certain descriptions of guns, as, for instance, rifles when grooved, and double guns when jointed together, were weakened after proof, and sometimes rendered unsafe. The present Act requires that all such barrels shall be proved twice, once "provisionally," as the Act terms it, and a second time "definitively," when the barrels are in a finished state, ready for setting up. The first proof may be regarded as for the protection of the gunmaker, to secure him from the loss that would arise from bestowing his labour on an unsound barrel; the second proof protects the user.

Under this Act the gun trade is recognised as an associated body, to which all are entitled to belong who carry on the trade within ten miles of the borough of Birmingham, and who are rated to the poor at not less than 15*l.* A fee of a guinea is paid annually on registration. The trade is required to meet on the 9th of March in each year, when they elect the managers of the proof house.

I will now pass on to the amount of production in this country; and fortunately for purposes of accuracy I am enabled to refer to reliable statistics, giving the precise number of guns produced. I obtain this information from the several proof house returns, which have been most kindly placed at my disposal by the Government Superintendent of Small Arms, and by the authorities of the proof houses of London and Birmingham.

Before entering upon the recent statistics, I will refer to the information which we possess relating to the supplies produced at the commencement of the present century during the Peninsular war.

From a return published shortly after that period of the number of barrels made for the Government in the years 1804 to 1815, I find the total to be 3,037,644, or an average number of 253,137 annually. In 1804 the number produced was 80,000; it steadily increased up to 1813, when it reached 490,000 in that one year made for the Board of Ordnance alone.

During this period Birmingham produced barrels and other materials for the India Company, amounting to a million. This makes the total number of arms made in the twelve years somewhat over four millions, or 1,074 per working day. A large number of these materials, manufactured in Birmingham, were made up into guns by the London gunmakers.

To verify the traditional "gun a minute," said to have been the

production of Birmingham during this war, we require 1,440 guns per day, or 525,000 per year. For this we must confine ourselves to the two highest years, 1812 and 1813, which produced respectively, including the India Company's supply, 581,682 and 654,450.

It will be instructive to compare with the results now given the production of the French Government during the same period. The information is obtained from returns published in 1822, by M. Dupin, a field officer in the French service.

During the years 1802 to 1814, a period of thirteen years, the arms manufactured by France numbered 2,456,257, or about 200,000 annually. This number gives us for every working day 604 guns. The number made in England, it will be recollected, being 1,074 per working day. At this time, it must be borne in mind, that France had at her command the resources of Liége and Turin, in addition to her own. St. Etienne, the most important seat of the arms manufacture in France, supplied 754,000, while Liége produced 279,900, and Turin 107,000. Seven other towns supplied the remainder.

With reference to the recent production of guns in our own country, I have collected the statistics of the last ten years, from 1855 to 1864.

The total number of guns and pistols proved in England during this period was 6,116,305. Of this number there were proved at the Birmingham trade proof house, 3,277,815; at the Government proof house in Birmingham, 978,249 (these last represent military guns made for the English service); at the London proof house, 1,355,139; and at the Enfield factory, 505,102. The Enfield factory has only been in operation seven years.

The average annual production will thus be:—

Birmingham trade proof house	327,781
„ Government proof house	97,824
London trade proof house	135,513
Enfield proof house	72,154
Making a total annual production for the whole of England of	633,272

I have stated that at the Government proof house, in Birmingham, 97,000 military guns were annually proved, but these were not all made up into guns in Birmingham. The number includes those set up in London. The annual number divides itself into—

Birmingham	59,560
London	38,264

I have prepared tables showing the classification of the various

descriptions proved at the Birmingham proof house. This will be published in the volume of reports on local industries, but I will not trouble the Section with the details. I may state that the proof house returns show that the proportion of barrels which fail in proof is as follows:—

	Per Cent.
Twisted barrels	5·67
Plain iron	4·57
Twisted military	1·20
Plain iron	1·35
Pistols	2·73
Average of all descriptions	4·15

It is difficult to give an idea of the range of prices of guns, as the variety is so very great. There is one gun, however, of which neither the quality nor the pattern has changed for many years past, and which will serve as a barometer for the chief branches of the trade to indicate the variations in prices. It is the one known as the African musket. These guns are sent to the west coast of Africa, where they are interchanged for palm oil. No ship's cargo trading with that coast, is complete without a supply of them. Probably 100,000 to 150,000 of these guns, made in Birmingham, are annually exported. A table showing the range of prices of this gun, which I may state is the cheapest made in the trade, will be, published in the reports. The prices in the table range from 13*s.* 6*d.*, the highest price in the twenty years, down to 6*s.* 6*d.* In the revolutionary year of 1848, it reached its highest point, from which it fell to 7*s.* in 1852. It rose from that time till in 1854, during the Crimean war, it reached 10*s.* 6*d.* The next highest point was in 1861, when it stood at 11*s.*, since that period there has been a steady fall till it stands at this present moment at 6*s.* 6*d.*, the lowest point touched.

From the returns I have in my possession, I have drawn out as accurately as I possibly can, the number of arms manufactured in Birmingham and elsewhere, for the Americans during the last four years. The first shot was fired at Fort Sumter on the 12th April, 1861. On the 9th May following, five purchasers of arms, some commissioned by different Northern States, others, private speculators, arrived in Birmingham. Each had so well kept secret the object of his mission, that when they found themselves all engaged in Birmingham on the same errand, they suspected each other of purchasing for the enemy, and their anxiety was increased accordingly to secure the few thousand arms that were then in store in Birmingham. The few on hand were at once shipped off, and large orders were given, which continued to occupy the trade at their full power, with one interval, till March, 1863. The interval I allude to was on the occurrence of the "Trent" affair in November, 1861,

which led to an embargo being laid on the export of arms on the 4th December, 1861. This embargo was removed early in 1862. On the removal of the embargo, one steamer took out from Southampton no less than about 40,000 rifles to New York. The trade worked at its full power, straining every nerve till, I find by the return from the Birmingham proof house, that in one month, the month of October, 1863, 60,345 rifle barrels were proved, being very few short of 2,000 per day from Birmingham alone, a number altogether unprecedented in the history of the trade. At that time the supplies produced in America at the Springfield armoury and elsewhere, began to tell upon the demand. We still find, however, that the numbers were 40,000 to 50,000 per month till March, 1863. They then fell to 14,000 per month, till in September, 1863, the Northern demand ceased altogether. Without notice the orders were suspended, and guns that had been sent over, were even returned to this country. The United States Government found at that time their factories were equal to supply the whole demand.

From the proof house returns I obtain the following numbers, showing the extent of the supply of arms from this country to America:—

Birmingham supplied	733,403
London	344,802
Making a total number of Enfield rifles sent to America of	1,078,205

The figures now brought before you, have shown what Birmingham is capable of producing; but we must not wrap ourselves up in a mantle of self-satisfaction, and shut our eyes to what can be done elsewhere. It will not be uninteresting to the Section, nor uninstructive to the gunmakers of this town, if we glance at what is being done by our competitors at Liége.

We have seen that during the last ten years the total production of England was upwards of six millions; but before we make a comparison with the Liége trade returns, we must deduct the number of arms made at the Enfield factory. This will bring our total to 5,611,203. The production of the Liége trade during the same ten years, according to their proof house returns, was 6,842,264, or something more than a million in excess of our make. It must be understood, however, that while the aggregate number produced in England is 17 per cent. less than that of Liége, the aggregate value of the English arms is greater. The Belgians make a very large number of pocket pistols at 1*s.* -½*d.* to 1*s.* 1½*d.* each pistol. The proof house returns show that in ten years the number of pocket pistols proved was 2,305,176—more than one-third of the entire make of Liége. In the English returns we have only 588,477

pistols, or little more than one-tenth, and none of these are sold at anything like the prices of the common pistols of Liége. As the demand for English work runs on superior qualities, the English makers have never attempted to make pistols of this very low class.

We are enabled to arrive at a fairly accurate estimate of the value of the arms made by reference to the Customs' returns, which give us the number exported and their value. I have taken for my calculation the years 1857 to 1864 inclusive, as for those years I have also the value exported of Belgian guns, which is necessary for comparison. During those years the number of guns exported from England was—

Number of guns	2,685,309
Declared value of ditto	£4,552,628
Value of each gun	£1 13*s.* 10*d.*

During the same years we have the Belgian value exported, but not the number of guns. I am obliged to assume that Belgium during those years exported as many of her entire make as England, although, in truth, she no doubt exported a greater proportion, as we may be sure that the home consumption of Belgium would not be equal to that of England. The following statement will show the number of guns made and exported. The military guns made by the English makers for their Government, are excluded from the calculation :—

Number of guns made in England for ordinary trade	3,822,457
Of this number England exported	2,685,309
Number of guns made in Belgium for trade	5,390,675
,, assumed to be exported by Belgium	3,760,450
Declared value of Belgian exports	£4,743,296
Value of each gun	£1 5*s.* 2*d.*

The arms manufactured by the English trade for Government use, I estimate at 3*l.* each. This is somewhat below the real value, but it will be near enough for our present purpose. These data will give us the following results as the value of the production of the two trades during the ten years 1855 to 1864 inclusive :—

Belgium—		
Number of guns, at 25*s.* 2*d.* each		6,842,265
Total value of Belgian guns		£8,609,849
England—		
Number of guns, at 33*s.* 10*d.* each		4,632,954
Value of ditto	£7,837,409	
Number of guns, at 3*l.* each	—	978,249
Value of ditto	2,934,747	
Total number of English guns	—	5,611,203
Total value of English guns	£10,772,156	

Although the value of our trade is thus shown to be more than equal to that of the only source of supply which at all approaches us in the extent of manufacture, it is manifest that the Birmingham gun trade must be on the alert if it is to maintain its ground. To contend against the cheap labour of Liége is not an easy task. The establishment of the machine factory, we hope, is a step in the right direction. It will secure for the town the trade in the highest class of military work, which otherwise would have gone to our competitors. Excessive prices for labour are still paid in certain branches of the work, particularly when sudden pressure comes upon the trade. A more uniform rate of wages would benefit all parties; the master would feel more confidence in tendering for contracts at moderate rates, and the workmen would secure more regular employment. I hope the facts now produced, and which will subsequently be given more in detail, will serve to call the attention of the trade to points so closely affecting its future progress and well doing.